**Federal Communications Commission Rural Health Care Pilot Program**
**Wyoming Network for Telehealth (WyNETTE) Quarterly Data Report**
**20 January 2010**

1. *Project Contact and Coordination Information*

*a. Identify the project leader(s) and respective business affiliations.*

Dr. Rex Gantenbein, University of Wyoming (Associate Project Coordinator)
Larry Biggio, Wyoming Health Information Organization

*b. Provide a complete address for postal delivery and the telephone, fax, and e-mail address for the responsible administrative official.*

Dr. Dorothy C. Yates, Associate VP for Research and Economic Development
University of Wyoming
1000 E. University Avenue, Department 3355
Laramie WY 82071
Telephone: 307.766.5320
Fax: 307.766.2608
E-mail: dyates4@uwyo.edu

*c. Identify the organization that is legally and financially responsible for the conduct of activities supported by the award.*

University of Wyoming

*d. Explain how project is being coordinated throughout the state or region.*

A non-competing continuation application for the HRSA ORHP Rural Health Care Network Development grant to the University of Wyoming was approved in April 2009. The application for the third year of this grant was submitted in December 2009. The project coordinator hired in 2008 continues to work on the project, and an additional part-time person has been hired for 2009-2010 to provide fiscal management and additional coordination through a grant from the HRSA Office of Health Information Technology.

A consortium of state agencies, private health organization and professional and community organizations has been created to coordinate the network development with other telehealth-related activities in Wyoming. Members were appointed by the Director of the Wyoming Department of Health. The group meets monthly, and reports on this project are given at each meeting.

An advisory committee representing the user community for the network is being organized. Initial members have been identified and an invitation/mission statement will be delivered to them this month. This group will ultimately be responsible for developing the governance and financial structure for the network, in cooperation with the University and the state consortium.

*2. Identify all health care facilities included in the network.*

A list of facilities in the state that have agreed to participate in the project as of January 13, 2010 is provided in Attachment A. Final confirmation of participating facilities will be submitted once the contract with the vendor is completed.

*3. Network Narrative.*

*a. Brief description of the backbone network of the dedicated health care network*

The proposed network consists of an ATM-based “cloud” through which all participating sites will be connected. The selected vendor will provide the equipment, lines, and management of the network as part of their contract.

*b. Explanation of how health care provider sites will connect to (or access) the network, including the access technologies/services and transmission speeds*

Hospitals with more than 25 beds will be connected with dual T1 connections; all other sites will be connected with single T1 connections. All sites will be provided with routers to connect to the network as part of the project.

*c. Explanation of how and where the network will connect to a national backbone such as NLR or Internet2*

A collection point will be established at the Division of Information Technology at the University of Wyoming as part of the project. The University has a redundant connection to Internet2 via the Front Range Gigapop that will be available to the sites.

*d. Number of miles of fiber construction, and whether the fiber is buried or aerial*

No fiber is being installed as part of this project. All connections will use existing copper wire where possible, and new copper will be installed if required.

*e. Special systems or services for network management or maintenance (if applicable) and where such systems reside or are based*

All network services and maintenance will be managed by the vendor.

*4. List of Connected Health Care Providers.*

At this time, no providers have been connected. We anticipate beginning connections after the vendor contract is finalized and the Funding Commitment Letter is in place.

*5. Identify the following non-recurring and recurring costs, where applicable, shown both as budgeted and actually incurred for the applicable quarter and funding year to-date.*

No costs were budgeted or incurred for the current quarter.

*6. Describe how costs have been apportioned and the sources of the funds to pay them*.

*a. Explain how costs are identified, allocated among, and apportioned to both eligible and ineligible network participants.*

Costs are still being negotiated with the selected vendor. The current contract draft indicates that costs will be distributed equally among the participants that will receive the same services (T1 or dual T1 connectivity). We have identified three ineligible entities that intend to connect to the network (a for-profit hospital and two clinics that it operates). This group will be required to pay three equal shares of its non-recurring and recurring costs during the contract period.

*b. Describe the source of funds from eligible and non-eligible participants.*

The Wyoming Association of Mental Health and Substance Abuse Centers (WAMHSAC) represents the mental health/substance abuse clinics that are eligible and intend to participate in the network. WAMHSAC has pledged $25,000 towards the matching funds, to be collected from the participating sites. This pledge will go towards matching the project funding.

c. *Show contributions from all other sources.*

The project has received $115,000 in matching funds from the Wyoming Department of Health through its Division of Emergency Preparedness ($100,000) and the State Office of Rural Health ($15,000). Staffing for project management is supported through a HRSA Office of Rural Health Policy Rural Health Network Development Grant, which currently extends through April 2011.

*d. Explain how the selected participant's minimum 15 percent contribution is helping to achieve both the selected participant's identified goals and objectives and the overarching goals of the Pilot Program.*

The matching funds demonstrate a commitment to developing telehealth capacity in Wyoming from both the State and private healthcare providers. Such commitment is necessary to ensure its adoption and sustainability.

*7. Identify any technical or non-technical requirements or procedures necessary for ineligible entities to connect to the participant's network.*

We will design procedures to connect the three ineligible entities, as well as collect their fair share of the costs, once we have finalized the contract with Qwest.

*8. Provide an update on the project management plan, detailing:*

*a. The project's current leadership and management structure and any changes to the management structure since the last data report.*

No changes since last report.

*b. The project schedule.*

The schedule for the filing of form 466A has been revised due to a longer than expected time for receiving, updating and negotiating the vendor contract. A vendor has been selected to provide the network backbone, through competitive bidding to be described as part of the funding commitment process. Contract negotiations were somewhat delayed when project staff determined that the first draft of the contract was not appropriate to the project. We requested a rewrite and received it this month. The new contract reflects the project needs more accurately.

Following review by project staff and the University's legal office, the contract will be signed. We expect to have negotiations and contract signing accomplished early in 2010 and will complete the process for the Funding Commitment Letter as quickly as possible. Completion of the network buildout once that is accomplished is still anticipated to be completed by December 2010, subject to negotiation with the vendor.

| TASK | DEADLINE |
|---|---|
| Complete network design | 29 August 2008 (completed) |
| Collect Letters of Agency | 30 October 2008 (completed) |
| Submit Form 465 for informal review | 15 November 2008 (completed) |
| Revise Form 465 and submit | 10 April 2009 (completed) |
| Review responses to Form 465 | 10 June 2009 (completed) |
| Submit Form 466A | 15 February 2010 (revised) |
| Execute vendor contract | 31 January 2010 (revised) |
| Deploy network | 30 December 2010 |
| Complete project | 30 June 2011 |

*9. Provide detail on whether network is or will become self sustaining. Selected participants should provide an explanation of how the network is self sustaining.*

A discussion on sustainability was submitted with the April 2009 report (the most recent revision is provided as Attachment B). A formal plan will be submitted as part of the submission of the Form 466A package.

*10. Provide detail on how the supported network has advanced telemedicine benefits.*

At this time, the network is not delivering services.

*11. Provide detail on how the supported network has complied with HHS health IT initiatives.*

The network has not addressed these initiatives.

*12. Explain how the selected participants coordinated in the use of their health care networks with the Department of Health and Human Services (HHS) and, in particular, with its Centers for Disease Control and Prevention (CDC) in instances of national, regional, or local public health emergencies (e.g., pandemics, bioterrorism). In such instances, where feasible, explain how selected participants provided access to their supported networks to HHS, including CDC, and other public health officials.*

At this time, this coordination has not taken place.

**Federal Communications Commission Rural Health Care Pilot Program**
**Wyoming Network for Telehealth (WyNETTE) Quarterly Data Report**
**20 January 2010**

ATTACHMENT A: Health care facilities participating in the Wyoming Network for Telehealth as of January 2010

| Facility Name | Address | County | RUCA | Phone # | Facility Type | Eligible for RHCPP Funding |
|---|---|---|---|---|---|---|
| Big Horn Clinic (Hot Springs County Memorial Hospital) | 156 N 6th Street, Basin WY 81410 | Big Horn | 10 | 307-568-2499 | Public, non-profit rural health clinic | YES: certified by State of Wyoming |
| Bridger Valley Family Practice (Evanston Regional Hospital) | 107 N. Main Street, Lyman WY 82937 | Uinta | 10.5 | 307-787-3313 | Public, for-profit rural health clinic | NO: operated by for-profit facility |
| Campbell County Memorial Hospital | 501 S. Burman Ave., Gillette WY 82717 | Campbell | 4 | 307-688-1551 | Public, non-profit hospital | YES: certified by State of Wyoming |
| Crook County Medical Services District | 713 Oak Street, Sundance WY 82729 | Crook | 10 | 307-283-3501 | Public, non-profit hospital | YES: certified by State of Wyoming |
| Evanston Regional Hospital | 190 Arrowhead Dr., Evanston WY 82930 | Uinta | 4 | 307-789-3636 | Public, for-profit hospital | NO: for-profit facility |
| Hot Springs County Memorial Hospital | 150 E. Arapahoe, Thermopolis WY 82443 | Hot Springs | 7 | 307-864-3121 | Public, non-profit hospital | YES: certified by State of Wyoming |
| Hulett Clinic (Crook County Medical Services District) | 122 Main Street, Hulett WY 82720 | Crook | 10.5 | 307-467-5281 | Public non-profit rural health clinic | YES: certified by State of Wyoming |

| | | | | | | |
|---|---|---|---|---|---|---|
| Ivinson Memorial Hospital | 255 North 30th St., Laramie WY 82070 | Albany | 4 | 307-742-2141 | Public, non-profit hospital | YES: certified by State of Wyoming |
| Johnson County Memorial Hospital | 497 West Lott, Buffalo WY 82834 | Johnson | 7 | 307-684-5521 | Public, non-profit hospital | YES: certified by State of Wyoming |
| Memorial Hospital of Carbon County | 2221 West Elm Street, Rawlins WY 82301 | Carbon | 7 | 307-324-8213 | Public, non-profit hospital | YES: certified by State of Wyoming |
| Memorial Hospital of Converse County | 111 S. Fifth Street, Douglas WY 82633 | Converse | 7 | 307-358-1454 | Public, non-profit hospital | YES: certified by State of Wyoming |
| Moorcroft Clinic (Crook County Medical Services District) | 101 West Crook, Moorcroft WY 82721 | Crook | 10.5 | 307-756-3414 | Public, non-profit rural health clinic | YES: certified by State of Wyoming |
| Mountain View Clinic (Evanston Regional Hospital) | 531 Parkway Drive, Mountain View WY 82939 | Uinta | 10.5 | 307-782-7650 | Public, for-profit rural health clinic | NO: operated by for-profit facility |
| North Big Horn Hospital District | 1115 Lane 12, Lovell WY 82431 | Big Horn | 10 | 307-548-5200 | Public, non-profit hospital | YES: certified by State of Wyoming |

| | | | | | | |
|---|---|---|---|---|---|---|
| Platte Valley Medical Clinic | 1208 S. River St., Saratoga WY 82331 | Carbon | 10.6 | 307-326-8381 | Public, non-profit rural health clinic | YES: certified by State of Wyoming |
| Powell Valley Healthcare | 777 Avenue H, Powell WY 82435 | Park | 7 | 307-754-2267 | Public, non-profit hospital | YES: certified by State of Wyoming |
| South Big Horn County Hospital District | 88 South US Hwy. 20, Basin WY 82410 | Big Horn | 10 | 307-568-3311 | Public, non-profit hospital | YES: certified by State of Wyoming |
| South Lincoln Medical Center | 711 Onyx Street, Kemmerer WY 83101 | Lincoln | 7 | 307-877-4401 | Public, non-profit hospital | YES: certified by State of Wyoming |
| Star Valley Medical Center | 910 Adams Street, Afton WY 83110 | Lincoln | 10 | 307-885-5800 | Public, non-profit hospital | YES: certified by State of Wyoming |
| Univ. of Wyoming College of Health Sciences | 236 Health Sciences Center, Laramie WY 82071 | Albany | 4 | 307-766-6556 | State university offering health care education | YES: other eligible entity |
| West Park Hospital | 707 Sheridan Avenue, Cody WY 82414 | Park | 7 | 307-578-2488 | Public, non-profit hospital | YES: certified by State of Wyoming |

| | | | | | | |
|---|---|---|---|---|---|---|
| West Park Hospital Cathcart Medical Office Building | 424 Yellowstone Highway, Cody WY 82414 | Park | 7 | 307-578-2488 | Public, non-profit hospital (new location) | YES: certified by State of Wyoming |
| Weston County Health Services | 1124 Washington, Newcastle WY 82701 | Weston | 7 | 307-746-4491 | Public, non-profit hospital | YES: certified by State of Wyoming |
| Wyoming State Hospital | 831 Highway 150 South, Evanston WY 82930 | Uinta | 4 | 307-789-3464 | Public, non-profit hospital | YES: State-operated facility |
| Big Horn Basin Counseling Service | 116 South 3rd St., Basin WY 82410 | Big Horn | 10 | 307-568-2020 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| Big Horn Basin Counseling Service | 1114 Lane 12, Lovell WY 82431 | Big Horn | 10 | 307-548-6543 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| Carbon County Counseling Center | 721 W. Maple, Rawlins WY 82301 | Carbon | 7 | 307-324-7156 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |

| | | | | | | |
|---|---|---|---|---|---|---|
| Central Wyoming Counseling Center | 1430 Wilkins Circle, Casper WY 82601 | Natrona | 1 | 307-237-9583 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| Fremont Counseling Service: Lander | 748 Main Street, Lander WY 82520 | Fremont | 7 | 307-332-2231 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| Fremont Counseling Service: Riverton | 1110 Major Ave, Riverton WY 82501 | Fremont | 4 | 307-856-6587 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| High Country Counseling and Resource Centers | 389 Adams, Afton WY 83110 | Lincoln | 10 | 307-885-9883 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| High Country Counseling and Resource Centers | 821 Sage Avenue, Kemmerer WY 83101 | Lincoln | 7 | 307-877-4466 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |

| | | | | | | |
|---|---|---|---|---|---|---|
| High Country Counseling and Resource Centers | 24 Country Club Lane, Pinedale WY 82941 | Sublette | 10 | 307-367-2111 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| Hot Springs County Counseling Services | 121 South 4th Street, Thermopolis WY 82443 | Hot Springs | 7 | 307-864-3138 | Public, non-profit mntal health clinic/ substance abuse center | YES: provides core outpatient services |
| Hot Springs County Counseling Services | 124 North 5th Street, Thermopolis WY 82443 | Hot Springs | 7 | 307-864-3138 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| Jackson Hole Community Counseling Center | 640 E. Broadway, Jackson WY 83001 | Teton | 4 | 307-733-2046 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| Northern Wyoming Mental Health Center: Buffalo | 521 W. Lott St, Buffalo WY 82834 | Johnson | 7 | 307-684-5531 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |

| | | | | | | |
|---|---|---|---|---|---|---|
| Northern Wyoming Mental Health Center: Newcastle | 420 Deanne Ave., Newcastle WY 82701 | Weston | 7 | 307-746-4456 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| Northern Wyoming Mental Health Center: Sheridan | 1221 West 5th Street, Sheridan WY 82801 | Sheridan | 4 | 307-674-4405 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| Northern Wyoming Mental Health Center: Sundance | 420-1/2 Main St., Sundance WY 82729 | Crook | 10 | 307-283-3636 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| Northern Wyoming Mental Health Center: Supported Independence Program | 1701 West 5th Street, Suite C, Sheridan WY 82801 | Sheridan | 4 | 307-674-5534 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| Pioneer Counseling Services | 350 City View Dr., Ste 302, Evanston WY 82930 | Uinta | 4 | 307-789-7915 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |

| | | | | | | |
|---|---|---|---|---|---|---|
| Pioneer Counseling Services | 301 Main Street, Lyman WY 82937 | Uinta | 10.5 | 307-789-7915 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |
| Yellowstone Behavioral Health Center | 2538 Big Horn Avenue, Cody WY 82414 | Park | 7 | 307-587-2197 | Public, non-profit mental health clinic/ substance abuse center | YES: provides core outpatient services |

Attachment B: Draft Sustainability Plan

# WyNETTE Draft Sustainability Plan

## Executive Summary

The WyNETTE Sustainability Plan has been developed by the University of Wyoming College of Health Science's Center for Rural Health Research and Education (CRHRE).

The plan lists possible structure, tactics, strategies and sustainability considerations for a statewide telehealth network in Wyoming. This Sustainability Plan is intended as a starting point, not the final document. We expect that the WyNETTE Governing Board will be formed and develop the final operating, strategic and sustainability plans for the Network. CRHRE has significant background and experience with Telemedicine, and we feel this document will assist in the development of Network structure and governance.

The Draft Sustainability Plan includes the following Sections:

- **History:** A brief history of telemedicine in Wyoming and of WyNETTE are provided
- **Goals and Challenges**: From the overall goal of "Improving the Quality of Health Care" in Wyoming to ultimate network goals, this section contains WyNETTE's vision for the Network. Also discussed are challenges (and potential solutions) faced in Wyoming by not only the Network, but by medical care providers in general
- **Network Design**: Contains a description of the "cloud" network envisioned to be the best design for a statewide network. We suggest that central Network control comes from a collaboration between users, not from a central institution
- **Network Structure**: Discusses the basic administrative structure of the Network and offers operational suggestions
- **Network Management**: Suggests establishment of a Governing Board, made up of representatives from all regions of Wyoming and independent of any institution to ensure statewide governance. Establishes Network personnel needs
- **Finances:** Discusses various strategies of financing ongoing Network Operations and explores a wide range of financing options
- **Appendices:** Appendices are provided to show examples of financial worksheets, Network documentation needs, Self Assessments for potential members and other data not appropriate for the Sustainability Plan itself

CRHRE offers this document as a proposed starting point. We stand ready to provide research, assistance and operating suggestions to the Network's Governing Board and individual members. Whether the need is for white papers, evidence-based operational information, draft clinical protocol

documents or any other form of operational assistance, CRHRE will offer the needed assistance free of charge to Network Members.

Rex Gantenbein, PhD
CRHRE Director

# Draft Sustainability Plan
# The Wyoming Network for Telehealth
# October 19, 2009

## History

The Wyoming Network for Telehealth (WyNETTE) was formed in 2000 as a partnership between the Wyoming Department of Health's (DOH) Office of Telemedicine and the University of Wyoming's Center for Rural Health Research and Education (CRHRE).

The partnership was funded by the Office for the Advancement of Telehealth (OAT), thanks to the action of Senator Craig Thomas, who ensured funding would be available. The initial mission of WyNETTE was to charter several telemedicine pilot projects in Wyoming. A primary objective was to get telemedicine equipment into clinicians' practices to evaluate and report on their successes or challenges.

As WyNETTE developed, several changes occurred, and the Wyoming Office of Telemedicine was moved into the Office of Minority Health. The mission continued through the cooperation of CRHRE and DOH, with the initiation of more pilot projects. They Wyoming State Legislature provided gap funding as the OAT grant expired, and projects were continued for two years. State funding expired in 2007.

In 2008, CRHRE obtained a grant from the U.S. Federal Communications Commission (FCC) to provide broadband Internet connections to rural healthcare providers through the Rural Health Care Pilot Project (RHCPP). At about the same time, a semi-official Telehealth Steering Committee was formed, bringing together individuals from throughout Wyoming who were interested in furthering telehealth in the state.

The proposed telehealth network, using the name WyNETTE, will connect 52 hospitals, clinics and mental health clinics throughout Wyoming. Additionally, the Telehealth Steering Committee has been given official standing by the Wyoming State Legislature. In their 2009 session, the Wyoming State Legislature enacted a law, signed by Governor Dave Freudenthal, to establish the Wyoming Statewide Interoperable Telemedicine/Telehealth Network Consortium. The Consortium brings legal status to the Steering Committee as an advisory body with a mission to facilitate establishment of a telehealth network. The Consortium's guidance has been instrumental in bringing Telemedicine/Telehealth to the current level and will be greatly beneficial in inaugurating WyNETTE as a statewide Telemedicine Network.

As part of its ongoing operation, the CRHRE also received a grant from the Office of Rural Health Policy (ORHP) to provide technical assistance to the Southeast Wyoming Telehealth Network (SEWTN), hosted by Cheyenne Regional Medial Center. Because the SETWN was an early success, the CRHRE requested that a second implementation grant for SEWTN be restructured to allow CRHRE to provide implementation and development assistance for the statewide Network.

Administration for the RHCPP grant and for this sustainability plan is being developed with the support of the ORHP grant and with the support of the Consortium.

# Goals and Challenges

WyNETTE's goal is simple and daunting: We will improve the quality of healthcare for all Wyoming residents. The goal is simple because it is easily articulated and will surely be approved by all who hear it. It is daunting because of significant challenges that Wyoming faces in healthcare in general, and in implementation of a new telemedicine network in particular.

Perhaps the most difficult challenge is the current lack of health care providers throughout the state, which is the basis of some sobering facts:

- Half of all Wyoming counties are listed as Health Care Provider Shortage Areas (HPSAs) in healthcare
- Half of Wyoming's counties are dental care HPSAs
- All Wyoming counties are listed as mental health care HPSAs

In addition to our severe lack of providers, Wyoming is extremely rural, with a population density of 5.4 people per square mile. This is the second-lowest population density in the United States, and Wyoming's population is the lowest in the country. Because our population density is less than 6 per square mile, Wyoming is listed as one of two frontier states. Distances between cities or towns are great and Wyoming's weather is notoriously difficult, even dangerous, for travel in the winter.

All these characteristics make Wyoming a ripe candidate for a statewide telehealth network that will allow patients to receive scarce specialty-based treatment in their home communities, thus avoiding difficult travel and lost time from their jobs. However, the challenge facing a state with a population that is equivalent to that of a small city exacerbates the provider shortage. In most cases, there simply isn't the population base available to support certain medical specialties statewide, let alone in our few cities. This lack makes WyNETTE a critical piece of the health care puzzle, but the state's lack of specialty care in general will make fulfilling WyNETTE's primary goal difficult.

However, participants in the early planning and building stage of the Network are confident that when the WyNETTE implementation is complete, many of these challenges to health care will be alleviated. We will start small and will grow the Network as expertise and connectivity become available. We will realize our ultimate goal of improving the quality of health care for all Wyoming residents.

# Network Design

The Network's value will be determined by the value of services it provides to Wyoming residents. Our aim is to improve the quality of healthcare for all Wyoming residents. To achieve this goal, we must deploy a network that will operate in an efficient and fiscally responsible manner and not be limited by parochial or territorial bias within the state.

To this end, hardware portion of the Network is being designed as a "cloud" network, that is, all members will have access to all other members and can form alliances and establish referral patters that make sense for their particular needs. Additionally, the Network "human" portion of WyNETTE will be primarily a clinical network. Network leaders and users will identify specialists willing to dedicate time specifically for telemedicine and will schedule remote patient

encounters to match the providers' availability. As we identify interested, qualified providers, we will bring them into the Network. Additional services will include educational opportunities for both medical practitioners and the general public as well as administrative endeavors.

WyNETTE will not be hosted by a particular institution. Instead, we will strive to create a wholly independent Network that will be able to bring patients and providers together with no suggestion of institutional prejudice. This goal will necessitate some difficult choices and will require additional funding sources, but a wholly independent Network is critical to WyNETTE's success. There will be no central institution operating the Network. Rather, the Network will be a wholly self-sufficient entity that provides telehealth services to patients located at hospitals, clinics and medical offices throughout the state. This non-affiliated approach to providing Network services will be a significant advantage to the state in that there will be no political, regional or turf concerns where using the Network is concerned. This independence will allow WyNETTE to be truly the Wyoming Network for Telehealth.

## Network Structure

Initial network structure will be determined by the network design negotiated between the CRHRE and the selected vendor for the Rural Health Care Pilot Project (RCHPP) build out. We will strive to bring in as much network redundancy as possible while living inside the financial limits of the RCHPP grant. This redundancy is critical to assure a dependable network. In a redundant network, interruptions of service can be avoided. If, for example, a construction crew were to cut the line carrying network data in a non-redundant system, all data transfer across that point would be stopped until the cut is repaired. In a redundant system, data can be rerouted with no loss of service.

With a network as a data carrier, medical care providers from throughout Wyoming will be able to connect their patients to services never before available in small towns. The Network will make it possible for local practitioners to offer specialty care 'in place' and keep patients local. While admissions to larger, distant hospitals might decrease to some small extent, difficult cases requiring greater attention and care will still be transferred to those locations with a larger specialty staff. Additionally, small hospitals may increase their admissions slightly with Network-facilitated consultation from remote specialists providing direction and assistance to local hospital staff members who have not had the specialty training. We do not expect that referral patterns will change significantly. However, WyNETTE may make out-of-state travel for treatment less common.

In its pursuit of improving quality of care for all Wyoming patients, WyNETTE will facilitate two forms of data transfer. The first, store-and-forward, will be available to practitioners who need to transfer such data as lab results, X-rays, MRIs or dermatology photographs to specialists for interpretation in a non-critical situation.

Real-time, or synchronous, videoconferencing will also be available for both physical and mental health cases that require face-to-face interactions between patients and practitioners. Both store-and-forward and synchronous methods are important and necessary for telehealth provision, and both will be offered on the Network.

The process of building a telemedicine network can be time consuming and difficult. Improperly directed effort and mistakes in network configuration and service models can be avoided with careful study and by using existing networks as mentors.

In order to streamline Network growth and enhance service, the Network staff will make use of the services offered by the Northwest Regional Telehealth Resource Center (NRTRC). NRTRC services include education, evaluation and mentoring services. Additionally, the Network's Management Team (see following section for further information) will visit established networks in the region with two aims: first, they will learn what worked and what did not work in network formation. This will help WyNETTE avoid a significant number of start-up mistakes and will allow us to use an established, successful model for network definition (this use of existing expertise allows us to operate as a virtual franchise of existing networks, that is, by modeling after successful networks, we can avoid the challenges that so often face new enterprises). Secondly the management team will be able to enter in to strategic partnerships for medical care, training and continuing education with regional partners to the benefit of Network members.

WyNETTE will be a "high-touch" network. That is, the alliances forged through the Network will, of necessity, be highly personal and democratic. This member-oriented structure will be helpful in developing Network unity and trust in many ways. According to the Foundation for e-Health Initiatives' *Connecting Communities for Better Health* paper, prepared for the U.S. Department of Health and Human Services, the three primary benefits from such a network structure are:

- An increase in trust and cooperation among members
- Developing new forms of human capital to facilitate Network growth in a collaborative manner
- Developing mutually-supportive evolution of members and the Network

Collaborative operations between Network members will form and re-form as patient care needs dictate. Hospitals and practitioners will consult and collaborate in patient care and develop trusting professional relationships that will benefit the full spectrum of healthcare-related issues as the Network grows.

It will not only be providers who benefit from the Network, of course. Patients will see improved care, closer to home. The spectrum of services available through Telemedicine is nearly limitless and the benefits that flow from these services are, indeed, exciting.

## Network Management

When WyNETTE is in operation, it will be managed by a professionally- and technically-trained staff that will be employed directly by the Network. Staff will operate under the direction of a Network Governing Board. Staff members will be located throughout the state so that they can provide necessary service and support for practitioners in remote locations.

The staff will consist of a Network Manager, a Technical Manager, a Network Clinical Manager and several Location Managers. Each WyNETTE employee will be trained in Network operations and user-site operation, in order to ensure that the WyNETTE operates efficiently and predictably throughout the state.

Network management will determine the requirements for remote sites' equipment, patient presentation areas and patient presentation methodology. WyNETTE will develop standards and

practices documents to guide the staff in operating the Network. We will also develop or adapt presentation protocols that will standardize patient presentation throughout the Network, thus avoiding confusion and assuring thorough care for all patients. The more predictable and consistent network operations are, the stronger and more efficient the Network will be.

The Network Management Team will be made up of the Network Manager, Network Technical Manager, The Network Clinical Services Manager and the Chair of the Governing Board.

The WyNETTE Governing Board will guide the establishment and operating policies of the Network. The Governing Board will be selected from a Board of Directors, and must include one representative from each of five regions of the state, the Northeast, Northwest, Central, Southwest and Southeast regions (regional boundaries will be developed in Network formation stages). The Governing Board will be responsible for Network guidance and operations and will operate with input from a Telehealth Advisory Board. The Advisory Board will offer guidance, support and leadership to the Governing Board, but the Governing Board will bear the ultimate responsibility for Network operations. The Advisory Board will be made up of the following:

- Wyoming state government
- University of Wyoming
- Physicians
- Hospital CEOs
- Directors of Nursing
- Payers
- Patient advocates
- State Legislators

The Governing Board shall meet at least quarterly and develop operating requirements and procedures for the Network. The Network Manager will attend all Governing Board meetings and report to the Board on progress, request guidance on specific issues and suggest policies and procedures for the Network. The Governing Board will develop Network bylaws, aimed at guiding and facilitating Network growth and service with relation to the overall Network goal of improving the quality of health care for all Wyoming residents.

The Governing Board and Network Manager will be responsible for developing a Network Implementation Guide document, which will be aimed at building the network in its initial phases. The Implementation Guide will contain operational, clinical and membership guidelines for the start-up phase of the project. When the Network Manager is named, he or she will be required to maintain and regularly update the Implementation Guide and include network expansion plans and procedures. The Governing Board will approve changes and modifications to the Implementation and Expansion guides.

As this Sustainability Plan is being developed, WyNETTE is in a building phase. Therefore, a full-time staff is not possible at this time. We will establish a staff in the following manner:

1. A **Network Manager** will be named. The Network Manager's immediate task will be to build the network through soliciting hospital and clinic connections and memberships, to hire staff and to ensure that network standards are established. The Network Director will be responsible for the smooth function of WyNETTE. He or she

will be required to ensure that all HIPAA security requirements are met, that all participants comply with patient security concerns and that all network members receive the support and service they require.

The Network Manager need not be a highly-experienced technical person, nor will it be necessary that he or she be a clinical provider. Rather, the Network Manager should be a person with a strong business background, having served in a management position with a similarly-sized organization. This business experience is what will be necessary to ensure operational stability and sustainability.

Among the first tasks to be assigned to the network director will be to prepare a Business and Sustainability Plan and a Strategic Plan for network growth and enhancement. These plans must be completed early in the Network's existence because without guiding documents, the Network will not be able to grow and survive.

2. A **Network Technology Specialist** will be hired. This individual's task will be to establish equipment standards, transmission protocols and technical operation guidelines. The Information Technology Specialist will monitor network usage, efficiency and capacity.

The Information Technology Specialist shall be an individual with significant experience in operating computer networks and fully familiar with both current and anticipated trends and best practices in data delivery and manipulation.

3. A **Network Clinical Manager** will set the guidelines for the clinical protocols to be used by the Network. These protocols will guide both the remote site (patient site) and provider site in presenting patients, clinical issues and privacy issues. The Network Clinical Manager will be responsible for training the Staff in patient presentation methods, technical issues and other day-to-day network clinical operations.

4. **Staff** will be hired to support the network's needs as determined following the initial implementation. The staff will be resident at or available to all network members. These individuals will be trained in network operation, best clinical practices and telehealth considerations in general. These staff members will be responsible for training members in presenting patients, will troubleshoot remote network problems and will understand both technical and clinical concerns.

While the Network is being built and as connections are established, the IT specialist will ensure that employees at remote sites are trained in the proper operation of equipment and in the proper methods of presenting patients. Through the cooperation of the remote sites, the Network will be able to start clinical applications as soon as connectivity is available. This "running start" is critical to the success and growth of the network. The IT specialist will consult with remote sites regularly to provide a list of recommendations for construction and decoration of presentation suites, connectivity issues and testing requirements.

The small size of the state and the potential funding challenges inherent with that may make it necessary to simply require that at least one individual at each site using the Network for face-to-face patient encounters be trained and certified in the standards of WyNETTE care. This would require a minimum of staffing for the Network, would provide a sense of ownership at the remote sites and would still provide the Network integrity so critical for WyNETTE's success.

# Network Finances

WyNETTE's future success and expansion will be based on the funding available to the Network. It is unreasonable to expect grant funding in the future, given the economic situation in the state and the nation. It will therefore be necessary for the Network to generate funding on its own to assure sustainability.

There are several potential areas of funding for the Network and these will be carefully evaluated and vetted before being incorporated. Funding sources include, but are not limited to the following.

## State Government

The State Government may be able to fund a portion of WyNETTE's operations. This funding cannot be expected without a definite return on investment, however. WyNETTE will demonstrate the savings available to those agencies when telemedicine applications are employed. Possible funding sources could include:

- **Corrections**: WyNETTE may be able to demonstrate significant savings over contract medical services and safety and cost considerations involved with transporting prisoners to receive medical services. From a reduction in overtime for overworked prison staffs to increased public safety derived from avoiding the need to bring prisoners into the general population, WyNETTE may be able to demonstrate significant budgetary savings and receive a significant portion of those savings from the Corrections budget. (The State of Arizona provides slightly more than $1 million to the Arizona telehealth program as compensation for medical services provided and the corresponding savings for Corrections.)
- **Medicare/Medicaid:** As value of home care monitoring and the corresponding reduction in emergency room visits and unnecessary readmissions by Medicare/Medicaid clients is demonstrated, the department of may be able to divert some of the savings to WyNETTE
- **Mental Health:** The Mental Health Division may realize decreases in costs associated with transporting clients by using remote visits to complete mental competency exams. These savings could be transferred to WyNETTE.
- **Worker's Compensation**: The Worker's Compensation Division could realize significant savings by using WyNETTE as a provider for remote therapy and rehabilitation services. A portion of their savings could be transferred to WyNETTE.

## USAC

The Universal Service Assistance Corporation's (USAC) Universal Service Fund program is aimed at reducing the cost of data transmission service to rural health care providers. The fund will rebate a portion of an eligible rural health care provider's telephone or Internet connection fee equivalent to the difference between the rural rate and an urban rate. Under USAC rules, providers may form a consortium to bill the USAC for this refund. WyNETTE will offer to be the consortium contact point and consolidate the bills of Network members. The consolidated bills can then be sent to USAC and the refunds, on a discounted basis, will be returned to the members by WyNETTE. It takes up to eighteen months for the USAC rebates to be approved and distributed. Until that time, members will pay WyNETTE the full amount of their bill. When the refunds become available, WyNETTE will reduce members' bills significantly while retaining a portion of the refunds for Network operations.

## Member fees

WyNETTE members will be expected to pay an annual fee for Network access. Fees will be determined as the network forms and grows, but will be established on a sliding scale basis. Single-practitioner practices will pay one rate, while multiple-practitioner practices will pay higher rates. Hospitals and clinics with higher patient loads will pay a higher rate. This fee scheme is aimed at recouping a higher percentage of Network income from the users who derive the most benefit from the Network and to charge less-frequent users a lower fee.

Some Networks charge a flat rate of $5,000 per year per member, some charge a percentage of member income, and there are many other rate structures in existence. The Governing Board will study the options and select the best rate structure for Wyoming.

## Non-Clinical Connection Charges

While member fees should be sufficient to cover connection and transmission of clinical data over the Network, non-clinical operations shall not be considered a part of those membership fees. Connections for meetings, educational events and continuing medical education shall be charged at a per-connection rate along with an hourly rate for Network usage. While these uses of the Network are valid and legitimate, it is the clinical operation of the Network that must be assured. Therefore, it will be necessary to require that non-clinical rates be added to standard Network fees.

# Appendix 1.
# Funding Template

The following is a template provided by the American Telemedicine Association's Business and Finance Special Interest Group. A more-detailed spread sheet is available electronically.

| Telehealth Project Financial Projections | | | DRAFT #2 | | |
|---|---|---|---|---|---|
| | | | Year 1 | Year 2 | Year 3 |
| | | *(Insert Calendar or Fiscal Year)* | _____ | _____ | _____ |
| Revenue | | | | | |
| 1. | Clinical Revenue | | | | |
| | a. | Telehealth Professional Services: | | | |
| | | Medicare | $ - | $ - | $ - |
| | | Medicaid | $ - | $ - | $ - |
| | | Commercial Insurance | $ - | $ - | $ - |
| | b. | Telehealth Facility Fees | | | |
| | | Medicare | $ - | $ - | $ - |
| | | Medicaid | $ - | $ - | $ - |
| | | Commercial Insurance | $ - | $ - | $ - |
| | c. | Telehealth Contract Revenue | $ - | $ - | $ - |
| | d. | Other Clinical Rev from Telehealth Activitie | $ - | $ - | $ - |
| 2. | Program & User Fee Revenue | | | | |
| | a. | Educational programming | $ - | $ - | $ - |
| | b. | Facility Use | $ - | $ - | $ - |
| | c. | Membership or User Fees | $ - | $ - | $ - |
| | d. | Other _____ | $ - | $ - | $ - |
| 3. | Extramural Funding | | | | |
| | a. | Federal Contracts and Grants | $ - | $ - | $ - |
| | b. | State Contracts and Grants | $ - | $ - | $ - |
| | c. | Other Contracts and Grants | $ - | $ - | $ - |
| | d. | Foundation Awards | $ - | $ - | $ - |
| 4. | Parent Organization Funding | | $ - | $ - | $ - |
| 5. | Recipient Site Revenue | | $ - | $ - | $ - |
| 6. | Other Revenue (Please list) | | | | |
| | a. | 0 | $ - | $ - | $ - |
| | b. | 0 | $ - | $ - | $ - |
| Total Revenues | | | $ - | $ - | $ - |
| | | | | | |
| Expenses | | | | | |
| 1. | Non-Clinical Personnel - Salaries & Benefits | | $ - | $ - | $ - |
| 2. | Clinical Expenses | | $ - | $ - | $ - |
| 3. | Telecommunications Expenses | | $ - | $ - | $ - |
| 4. | Supplies & Operations Expenses | | $ - | $ - | $ - |
| 5. | Training Expenses | | $ - | $ - | $ - |
| 6. | Educational Program Expenses | | $ - | $ - | $ - |
| 7. | Marketing | | $ - | $ - | $ - |
| 8. | Other Direct Program Expenses | | $ - | $ - | $ - |
| 9. | Travel | | $ - | $ - | $ - |
| 10. | Recipient Site Support Expense | | $ - | $ - | $ - |
| 11. | Capital Expenses | | | | |
| | a. | Equipment | $ - | $ - | $ - |
| | b. | Building/Renovation | $ - | $ - | $ - |
| | c. | Other Fixed/Overhead Exp as Line Item | $ - | $ - | $ - |
| | d. | Overhead Exp as a % of Non-Cap Exp | $ - | $ - | $ - |
| 12. | F & A Expenses (Grants) | | $ - | $ - | $ - |
| Total Expenses | | | $ - | $ - | $ - |
| | | | | | |
| | | Direct Surplus/(Deficit) | $ - | | |
| In-Kind or Non-Cash Contributions (please list) | | | | | |
| | a. | _____ | | | |
| | b. | _____ | | | |
| Total In-Kind or Non-Cash Contributions | | | $ - | $ - | $ - |
| | | Total Surplus/(Deficit) | $ - | $ - | $ - |

# Appendix 2.
# Network Documents

We recommend that the Network Governing Board prepare the following documents to guide Network operation.

*Vision Statement* The Vision Statement should be articulated and agreed to by the Board of Directors at the very outset of the project. Without a clear Vision, neither the Board nor the Network employees will have a clearly-defined end in mind. Without a clear end, the path to the future will be vague and uncertain.

*Mission Statement* The Mission Statement should be articulated and agreed to by the Board of Directors at the project beginning, along with the Vision Statement. The Mission Statement will be a concrete demonstration, available to all employees, Network members and potential funders and will demonstrate with clarity and brevity the Network's primary reason for existence. A clear and concise Mission Statement can help attract funding, new members and can generate community (patient) support for the Network.

*Implementation Plan* This document will lay out the procedures required to build the network, to add members, to provide clinical services, to schedule appointments and, generally, to assure network operation and expansion. The document will include milestones, timelines and goals and objectives for both initial and expanded network operation.

*Business Plan* The business plan will contain information necessary to guide the day-to-day operations of the network. Included sections will provide detailed operational plans for Network Finances, Network Operations, Network Marketing, Network Products and Network Policies and Procedures among others.

*Sustainability Plan* The Sustainability Plan will contain information and guidance aimed at maintaining network fiscal fluidity as well as plans for growth and expansion as those points relate to the financial sustainability of the network. This document will guide and define the financial health of the Network into the future.

*Strategic Plan* This document will contain the strategies and considerations required to guide future operation and expansion of the Network. It will anticipate clinical needs for the state and provide guidance for the Network's meeting those needs. It will anticipate technological advances and provide guidance for incorporating those advances into the network to further improve patient service. This document will, in effect, be a 'snapshot' of the Network in one, five and ten years.

All these plans must be considered to be living documents. It will be the responsibility of the Network Manager and the Board of Directors to review the documents regularly after their completion (no less than twice a year) and update, upgrade and expand upon them to ensure that the network is constantly evolving and following the best guidelines available.

# Appendix 3.
# Telehealth Self-Assessment Tool

The University of Wyoming Center for Rural Health Research and Education (CRHRE) welcomes you to the exciting world of Telemedicine/Telehealth. Whether your organization is already involved in health care at a distance or considering joining the Wyoming Telehealth Network (WyNETTE), we believe the following self-assessment will be helpful in your decision-making process. We have borrowed the basic structure from a highly successful existing network (the Alaskan Native Tribal Health Consortium—AFHCAN), but have made modifications to reflect Wyoming's unique position.

The CRHRE is spearheading WyNETTE's implementation and construction through a grant from the Federal Communication Commission's Rural Health Pilot Project, and we have extensive background information and knowledge about telehealth issues. Our consultation sub-department, the Wyoming Telemedicine Assistance Center (WyTAC), offers no-charge research and education about telehealth and telemedicine. If you have questions or concerns about joining WyNETTE, don't hesitate to contact us for more detail and description of the project and to help find your place in the Network.

As you perform the self-assessment, bear in mind that you can hold the results internally or if you have questions or needs, you are welcome to contact the CRHRE for guidance or suggestions about telemedicine choices and options. We assure your confidentiality throughout the process of assessment and implementation. The CRHRE contact information is listed below the assessment.

**Human Aspects**

1. Establish telehealth team to study and start implementation of your program (which physicians, nurses, technology people will be most involved with the program?)
2. How have you prepared your organization for telehealth? (Do your employees know what telehealth is? Are they willing to participate? Is there a "champion" within your organization who will inspire the others to become and stay involved?)
3. How will you identify which clinical disciplines will be offered *via* telemedicine? (What is the greatest clinical need that your organization faces? What do you refer to outside practitioners the most? What expertise is your organization lacking? What clinical services unavailable locally could go the farthest toward improving your community's health? If you are a specialty provider, which remote areas refer to you the most? Does it make sense to open telemedicine connections to them first?)
4. Does your medical staff desire telemedicine? What are their concerns? (Remember that the "If you build it, they will come" attitude only obtains in fantasy movies. The operative question you must ask is, "If we build it, will the staff use it?")

5. Which of your sites do not presently have computers/e-mail capability/Internet access? (What must you invest in assuring basic connectivity at the sites using telemedicine? Specialized equipment will need to be procured as well. What will you need to purchase for the clinical applications you choose to pursue?

**Clinical Workflow**

1. How do you anticipate telemedicine will change your current workflow and delivery of health care? How do you plan to address these changes? (Do you have working arrangements with clinical specialists who are willing to work *via* telemedicine?)
2. What are your organization's referral patterns? Will they need to change for primary care, ENT, and dermatology cases (for example) if you join a telemedicine network?
3. How is medical traffic currently handled by providers?
4. In a typical day, about how many encounters to you have at your sites?
5. How many of the above encounters would benefit from (for example) a) video otoscope, b) digital camera, or c) ECG?
6. What present telemedicine equipment do you have?
7. Where do outpatient charts flow in your facility (example: from provider to front office to medical records to other departments)?

**Training**

1. Will you require training in the operation of the telemedicine equipment?
2. Will you provide staff the necessary time for training?

**Health Priorities**

1. What are your key organizational goals for telehealth applications? Please rank in order of importance (1=most important). Access to care, patient satisfaction, quality of care, information transfer, cost/economics, continuity of care, other. (In other words, WHY do you want to join the Network?)
2. How do you expect the WyNETTE project to help meet your top goal? Subsequent goals?
3. Does your medical staff believe telemedicine will help address a health care need? (Again, if you join the network will your staff "play"?)

**Business and Sustainability**

1. What are your major concerns about sustainability of telemedicine? (Can you develop a business case for network membership?)
2. Estimate the yearly telecommunication costs associate with telemedicine for each site. How will your organization sustain these yearly costs?
3. How will your organization sustain the yearly recurring cost of equipment maintenance and support after the first year?

4. How will you know if this project was successful? (The last question, but perhaps the key: How will you measure success? One life saved? Better health care for your community? Ability to provide specialty care locally?)

**Licensure, Privileging and Credentialing**

This is a key issue in today's telemedicine climate. Are your providers licensed to give care in Wyoming? Are they credentialed at the patient site? Do they have privileges to work in the remote location?

**Contact the CRHRE**

Bob Wolverton, Ed D
Program Manager
CRHRE
Department 3432
1000 University Avenue
Laramie, Wyoming 82071

bobwyo@uwyo.edu

(307) 766-4350 Voice
(307) 766-4356 FAX